disclosures of *Schiel et al. '854* and *Volz et al.*

§ 112 Rejections

The examiner suggested that the independent claims be amended to clarify that the shoe extends across the cross-machine direction as shown in the figures. The independent claims have been amended to clarify that the nip defined between the shoe and the backing roll extends in the cross machine direction.

The examiner suggested that how the measurement of the shoe is taken be set out with greater clarity. The independent claims have been amended to clarify that the measurements of the shoe position are taken with respect to a reference position. New claims have been added in which the reference position is a fixed position on the frame.

Claim 15 has been amended as suggested by the examiner to clarify that a position sensor is also located in the middle of the machine.

Claim 17 was objected to as having relative phrases which lacked clarity. The claim has been amended to remove the objected-to language.

§ 103 Rejections

All the claims have been amended to be directed to a method for closing a nip in a papermaking machine, or a papermaking machine closable nip arrangement or apparatus in which the closing of the nip is controllable in response to sensor information from at least two sensors spaced in the cross machine direction. As noted in the specification, the claimed invention allows the shoe to be "controlled to close in an optimal manner," to avoid the "risk of the web breaking."

Bubik et al., as noted by the examiner, has movement of the shoes which is "not towards one another," contrary to the claimed invention. *Koenigbauer et al.* and *Hoever et al.* are directed to apparatus which achieve a desired workpiece thickness by controlling the distance between platens or calender rolls–contrary to the claimed invention which is directed to controlling the shoe during the closing of the nip. Moreover, *Koenigbauer et al.* does not take measurements as the apparatus is under operation, but instead has a portable measuring

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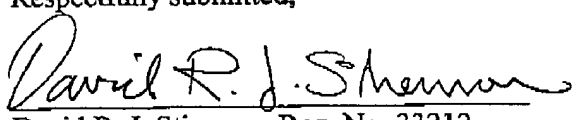
device; and *Hoever et al.* does not disclose employing measurement sensors.

Schiel et al. discloses an arrangement for adjusting the circumference of the shell of a press roll along the axial direction, by, for example, manufacturing the shell with different diameters, or adjusting the temperature of regions of the shell to achieve the result desired. As the examiner has noted, *Volz et al.* does not disclose a shoe of a shoe press/shoe calender, but instead deals with a controlled deflection roll. The *Volz et al.* apparatus has "position sensors or feelers 5" (Col. 3, lines 45–46) shown in the figure to be mounted with respect to the ends or sides of the roll shell body. The references do not suggest a method for closing a shoe against a backing roll involving taking measurements of the shoe position at locations spaced in the cross machine direction, and controlling the movement of the shoe during closing in response to the measurements taken.

Applicant believes that no new matter has been added by this amendment.

Applicant submits that the claims, as amended, are in condition for allowance. Favorable action thereon is respectfully solicited.

Respectfully submitted,



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Applicant:	Kari Hasanen et al.	Date:	January 23, 2003
Date Filed:	March 5, 2002	Docket No.:	FORSAL-30
App. No.:	09/980,061	Art Unit:	1731
For:	Method and Arrangement for Positioning a Shoe of a Shoe Press/Shoe Calender in a Paper Machine	Examiner:	K. Hastings

Version with Markings to Show Changes Made

Amendments to the Claims, under 37 C.F.R. § 1.121 (c)(1)(ii)

12. (Amended) A method for closing a shoe against a backing roll to form a nip between a backing roll and [positioning] a shoe of a shoe press/shoe calender in a paper machine, the nip extending in a cross machine direction, the method comprising the steps of:

measuring the position of the shoe of the shoe calender/shoe press with respect to a reference position at at least two positions which are spaced from each other in the cross machine direction; and

closing the shoe against the backing roll while controlling the position of the shoe based on the results of the measurement so the nip is of a [as to be as] desired shape [in the direction of nip compression].

13. (Amended) The method of claim 12 wherein the position of the shoe with respect to the reference position is measured by at least two position measuring sensors.

15. (Amended) The method of claim 14 wherein a position sensor is also located in the middle of the machine, and the position of the shoe is measured by the position measuring sensor close to the driving side edge, the position measuring sensor close to the tending side edge, and the position sensor located in the middle of the machine.

17. (Amended) The method of claim 12 wherein the step of closing the shoe against the backing roll includes quickly closing the nip when in the initial stages of closing, and slowing down the movement when the nip starts to be almost closed [the shoe is controlled to be closed into the nip formed against a backing roll/thermoroll in a manner that is optimal with respect to the running situation, advantageously in a desired position and/or at a desired speed].

18. (Amended) An arrangement for [positioning a] closing a shoe against a backing roll to form a nip between the backing roll and the shoe of a shoe press/shoe calender in a paper machine, the nip extending in a cross machine direction, the arrangement comprising:

a shoe roll, having a shoe and hydraulic cylinders connected thereto for moving the shoe towards and away from the backing roll;

at least two measuring devices for measuring the position of the shoe, the measuring devices being positioned to determine the position of the shoe with respect to a reference position at two positions on the shoe which are spaced in the cross machine direction; and

means for controlling the position of the shoe during the closing of the shoe against the backing roll to form the nip based on the results obtained by [means of] the measuring devices so [as to be as] the nip is of a desired shape [in the direction of nip compression].

23. (Amended) An apparatus for closing a shoe against a backing roll to form a nip between the backing roll and the shoe in a paper machine, the apparatus comprising:

a backing roll;

a shoe;

a belt within which the shoe is positioned, the shoe being loaded against the backing roll to define a nip by a plurality of hydraulic cylinders;

a frame extending within the belt, the hydraulic cylinders supporting the shoe on the frame;

at least two position measuring sensors arranged in connection with the shoe between the shoe and the frame, the sensors measuring the position of the shoe and producing position measurements, the position measuring sensors being spaced from one another in a cross machine direction; and

a processing unit which receives the position measurements from the position measuring sensors, the processing unit generating signals which control the hydraulic cylinders to close the shoe towards the backing roll [move the shoe as desired in the direction of nip compression].

Please add the following new claims:

25. The method of claim 17 wherein the backing roll is a thermoroll.

26. The method of claim 12 wherein the reference position is a fixed position on a frame to which the shoe is mounted.